

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Ex parte PATRICK CACERES and FRANK CACERES

Appeal No. 2005-2540  
Application No. 10/026,629

ON BRIEF

MAILED

SEP 29 2005

U.S. PATENT AND TRADEMARK OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

Before CAROFF, OWENS and TIMM, Administrative Patent Judges.

CAROFF, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's rejection of claims 1-5, 7-18 and 20-25, all the pending claims in appellants' application.<sup>1</sup>

The appealed claims relate to an article which has the capability of cooling an object by desorption and evaporation of water from a water-swollen gel enclosed within a bag having

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<sup>1</sup>We note that the rejection appealed from was not designated by the examiner as being final. Nevertheless, appellants' claims having been at least "twice rejected," we have authority to consider the appeal in this case under 35 U.S.C. § 134(a).

water-permeable walls. The article may be used to relieve pain by applying the article to a sore part of an individual's body. Claims 1 and 13, which are reproduced below, are respectively representative of the claimed article and its method of use for relieving pain:

1. An article with cooling capability by water desorption from a water-swollen gel comprising:

a polymer absorbent enclosed within a bag delimited by a collapsible envelope having non-watertight walls,

wherein said polymer absorbent is in particulate form wherein each particle comprises a core of less cross-linked polymer sequences for retaining absorbed water and a shell of more cross-linked polymer sequences for retarding diffusion of water from a particle to another during desorption of absorbed water, and

wherein the amount of polymer particles enclosed in the bag is in excess compared to the theoretical amount that would be just required to fill up the bag when they are in the full swollen state.

13. A method for relieving pain from a sore part of an individual's body with a cooling article comprising a polymer absorbent enclosed within a bag delimited by a collapsible envelope having non-watertight walls, wherein said polymer absorbent is in particulate form wherein each particle comprises a core of less cross-linked polymer sequences for retaining absorbed water and a shell of more cross-linked polymer sequences for retarding diffusion of water from a particle to another during desorption of absorbed water, said method comprising:

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wetting said polymer particles with water through said envelope during a sufficient time to swell them into a gel mass filling up said bag, and

applying said article on said sore part of the individual's body maintaining an inner wall in close contact thereon while allowing water vapor desorbed from said particles to escape through an opposed outer wall of said envelope.

The prior art references relied upon by the examiner are:

Zafiroglu	4,897,297	Jan. 30, 1990
Goldman et al. (Goldman)	5,669,894	Sep. 23, 1997
	(effective filing date: Mar. 29, 1994)	
Bahia et al. (Bahia)	6,075,177	Jun. 13, 2000
	(effective filing date: Jan. 20, 1994)	

The following three rejections are before us for review:

1. Claims 1-5, 7-18 and 20-22 stand rejected under 35 U.S.C. § 103(a) for obviousness in view of Goldman taken with Bahia.
2. Claims 13 and 23-25 stand rejected under 35 U.S.C. § 103(a) for obviousness in view of Zafiroglu.
3. Claims 1-3, 7-9, 11, 14-15, 17 and 20-21 stand rejected under 35 U.S.C. § 103(a) for obviousness in view of Zafiroglu taken in combination with Goldman.

Based upon the record before us, we conclude that the examiner has failed to establish a prima facie case of obviousness with respect to any of the claims on appeal.

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Accordingly, we shall reverse all of the rejections at issue.

The basis for our decision is as follows:

REJECTION (1)

Initially, we note that while this rejection involves Goldman and Bahia, Bahia is apparently relied upon by the examiner only in connection with dependent claims 4-5, 8, 10, 12, 16, and 18. Since we shall focus upon the three independent claims on appeal, further discussion of Bahia is unnecessary.

With regard to the three independent claims, article claims 1 and 14 both require that "the amount of polymer particles enclosed in the bag is in excess compared to the theoretical amount that would be just required to fill up the bag when they are in the full swollen state." We find nothing in Goldman which teaches or suggests this feature, the examiner's assertions to the contrary notwithstanding.

We agree with the appellants (reply brief: p. 6) that if one of ordinary skill in the art were desirous of optimizing the amount of polymer particles in Goldman's absorbent article, optimization would at most lead only to the theoretical amount necessary to fill up the article when the particles are in their fully swollen state. There is no apparent reason why one would consider using more than the theoretical amount in the prior art.

As appellants point out, use of an excess of polymer particles in the instantly claimed article produces a result not contemplated by Goldman, namely that some of the particles are constrained from swelling completely and thus capable of absorbing trace amounts of liquid to keep the contacting surface of the bag dry (reply brief: p. 4).

With regard to independent method claim 13, Goldman's absorbent article does include hydrogel-forming polymer particles which appear to have the specific cross-linked core/shell structure recited in the claim (Goldman: col. 16, ll. 4-20, 31-41). However, the utility disclosed by Goldman is fundamentally different than the method claimed by appellants.

In Goldman, the absorbent article is applied to the body in a dry state so as to be capable of absorbing body fluids. In contrast, the claimed method requires that the article is wetted with water to swell the polymer particles into a gel mass, and applied to an individual's body while allowing water vapor to desorb from the particles to produce a cooling effect. The wetting and applying steps are related in that the water which is added during the wetting step is allowed to escape as water vapor as part of the application procedure. In other words, the claimed method implicitly requires that the wetting step must

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precede the applying step, the exact opposite of how the Goldman article is utilized. Accordingly, we agree with appellants that the claimed method would not have been obvious, within the context of 35 U.S.C. § 103, from the fundamentally different procedure contemplated by Goldman.

REJECTION (2)

In this rejection, the examiner applies Zafiroglu alone against all of appellants' method claims. Focusing upon independent claim 13, we see that appellants' method requires use of a cooling article which includes polymer particles having a specific cross-linked core/shell structure. While the wet compress of Zafiroglu does include hydrogel-forming absorbent polymer particles which have been crosslinked, Zafiroglu is devoid of any teaching or suggestion of the specific core/shell structure described in claim 13.

Moreover, the examiner has not provided a factual basis for concluding that the specifically claimed core/shell structure is inherent in Zafiroglu merely because the polymer particles have been crosslinked. Accordingly, the rejection of appellants' method claims based on Zafiroglu alone is reversed.

REJECTION (3)

In this rejection, the examiner relies upon both Zafiroglu and Goldman to reject most of appellants' article claims. This rejection fails essentially for the same reasons that the article claims were found to be patentably distinct from Goldman,<sup>2</sup> namely, Goldman does not teach or suggest that the amount of enclosed polymer particles should be "in excess," as required in appellants' article claims.

Neither has the examiner shown that Zafiroglu teaches or suggests this feature. Thus, we are compelled to reverse the subject rejection.

Additionally, while Goldman does disclose hydrogel-forming polymer particles which appear to have a cross-linked core/shell structure as in appellants' claims,<sup>3</sup> in our opinion Goldman is not properly combinable with Zafiroglu since the articles respectively disclosed in each reference serve fundamentally different purposes. The absorbent article of Goldman is applied to the body in a dry state for the purpose of absorbing body

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<sup>2</sup>See the discussion, supra, in connection with rejection (1).

<sup>3</sup>See the discussion, supra, in connection with rejection (1).

fluids; whereas the wet compress of Zafiroglu is wetted with water to form a hydrogel prior to being applied to an object.

Moreover, surface crosslinking of polymer particles is employed by Goldman for the purpose of obtaining absorbent polymers having relatively high "SFC" and "PUP" values (Goldman: col. 16, ll. 4-7). SFC and PUP are measures of the ability of hydrogel-forming polymer particles to absorb, transport, or distribute body fluids under usage pressures when applied to a body (Goldman: col. 11, ll. 20-22, 39-41, 60-62, 64-66). Clearly then, surface crosslinking would be of interest when applying an article to a person's body for the purpose of absorbing body fluids. The examiner has failed to establish why a person of ordinary skill in the art would consider surface crosslinking and the associated parameters (SFC, PUP) relevant when fluid absorption occurs prior to application, as in Zafiroglu and in appellants' claimed article.

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For all of the foregoing reasons, the decision of the examiner is reversed.

REVERSED



MARC L. CAROFF )  
Administrative Patent Judge )  
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Terry J. Owens )  
TERRY J. OWENS )  
Administrative Patent Judge )  
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